

Features:

- 1200V Schottky Diode
- Zero Reverse Recovery Current
- High Frequency Operation
- Positive Temperature Coefficient
- Temperature independent

Switching

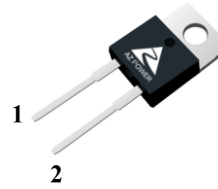
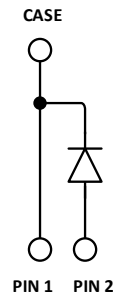
Benefits:

- Unipolar Rectifier
- Minimal switching loss
- Higher Efficiency
- Low cooling requirement

Symbol	Value	Unit
V_{RRM}	1200	V
I_F ($T_C = 151^\circ\text{C}$)	12	A
Q_C	57	nC

Applications:

- Switch Mode Power Supply
- Booster diodes in PFC, DC/DC
- AC/DC converters

Outline

TO-220-2L
Circuit

Maximum Ratings

Symbol	Parameter	Value	Unit	Test Conditions
V_R	DC Peak Reverse Voltage	1200	V	$T_J = 25^\circ\text{C}$
V_{RRM}	Repetitive Peak Reverse	1200	V	$T_J = 25^\circ\text{C}$
V_{RSM}	Surge Peak Reverse Voltage	1300	V	$T_J = 25^\circ\text{C}$
I_F	Continuous Forward Current	36	A	$T_C = 25^\circ\text{C}$
		19		$T_C = 125^\circ\text{C}$
		12		$T_C = 151^\circ\text{C}$
I_{FRM}	Repetitive Peak Forward Surge Current	86	A	$T_C = 25^\circ\text{C}, T_P = 10\text{ms}, \text{Half Sine Wave}$
		64		$T_C = 125^\circ\text{C}, T_P = 10\text{ms}, \text{Half Sine Wave}$
I_{FSM}	Non-Repetitive Peak Forward Surge Current	114	A	$T_C = 25^\circ\text{C}, T_P = 10\text{ms}, \text{Half Sine Wave}$
		97		$T_C = 125^\circ\text{C}, T_P = 10\text{ms}, \text{Half Sine Wave}$
P_D	Power Dissipation	187	W	$T_C = 25^\circ\text{C}$
		62.5		$T_C = 125^\circ\text{C}$
$T_{J,max}$	Operating Junction Temperature	175	$^\circ\text{C}$	
T_{stg}	Storage Temperature Range	-55 to 175	$^\circ\text{C}$	

Thermal characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit
R_{thJC}	Thermal resistance		0.8		$^{\circ}\text{C}/\text{W}$

Electrical Characteristics

Symbol	Parameter	Value			Unit	Test Conditions
		Min.	Typ.	Max.		
V_{DC}	DC Blocking Voltage	1200			V	$I_R = 100\mu\text{A}$, $T_J = 25^{\circ}\text{C}$
V_F	Forward Voltage		1.6 2.4	1.9 2.7	V	$I_F = 12\text{A}$, $T_J = 25^{\circ}\text{C}$ $I_F = 12\text{A}$, $T_J = 175^{\circ}\text{C}$
I_R	Reverse Current		1 15	50 160	μA	$V_R = 1200\text{V}$, $T_J = 25^{\circ}\text{C}$ $V_R = 1200\text{V}$, $T_J = 175^{\circ}\text{C}$
Q_C	Total Capacitive Charge		57		nC	$I_F = 12\text{A}$, $dI/dt = 300\text{A}/\mu\text{s}$ $T_J = 25^{\circ}\text{C}$, $V_R = 800\text{V}$
C	Total Capacitance		628 56 51		pF	$V_R = 1\text{V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{ MHz}$ $V_R = 400\text{V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{ MHz}$ $V_R = 800\text{V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{ MHz}$

Typical Performance

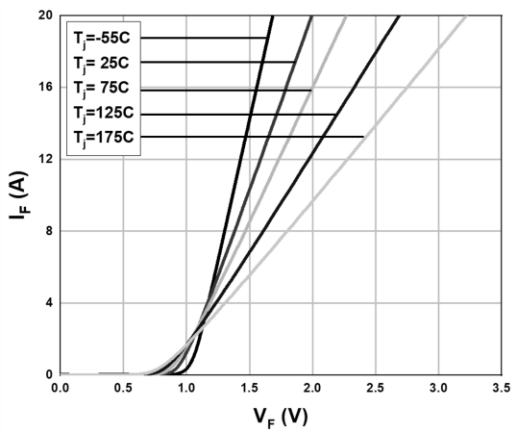


Fig. 1 Forward Characteristics

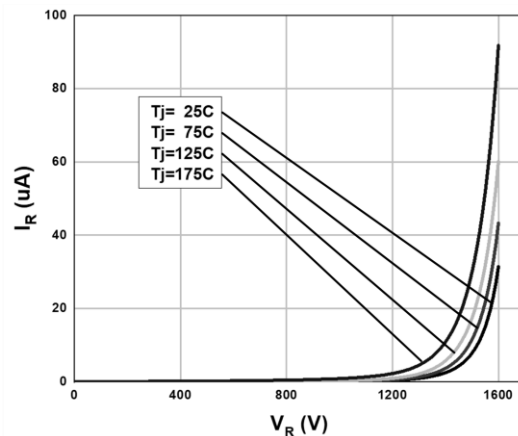


Fig. 2 Reverse Characteristics

Typical Performance

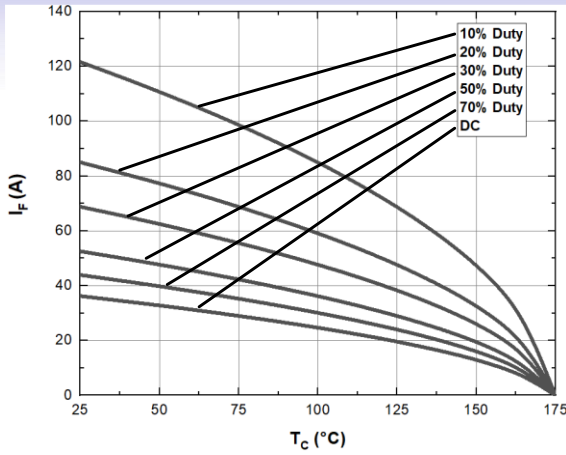


Fig. 3 Current Derating

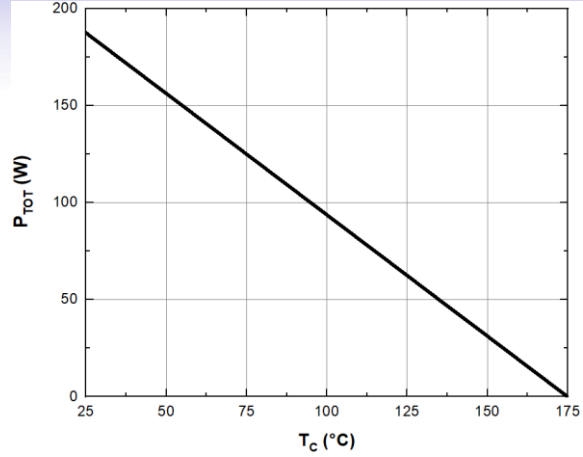


Fig. 4 Power Derating

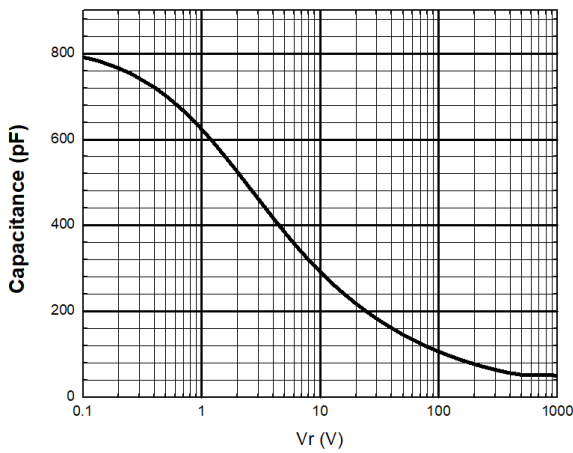


Fig. 5 Capacitance vs. Reverse Voltage

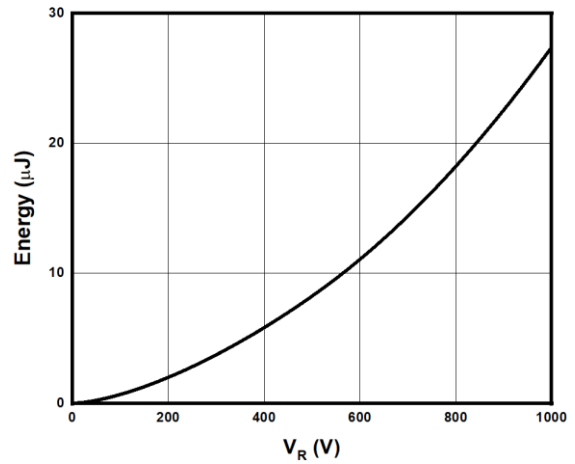


Fig. 6 Capacitive Stored Energy

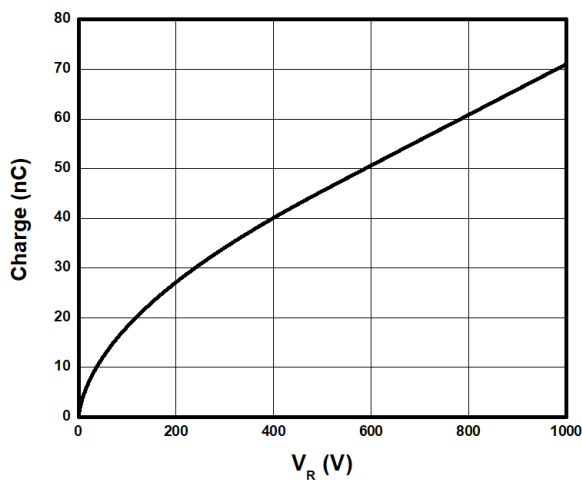


Fig. 7 Total Charge vs. Reverse Voltage

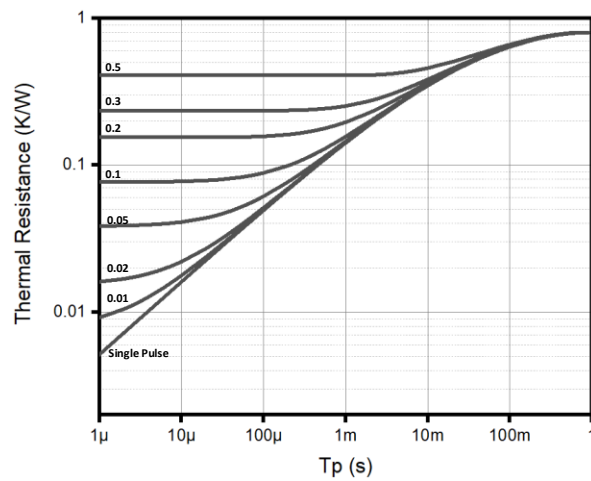
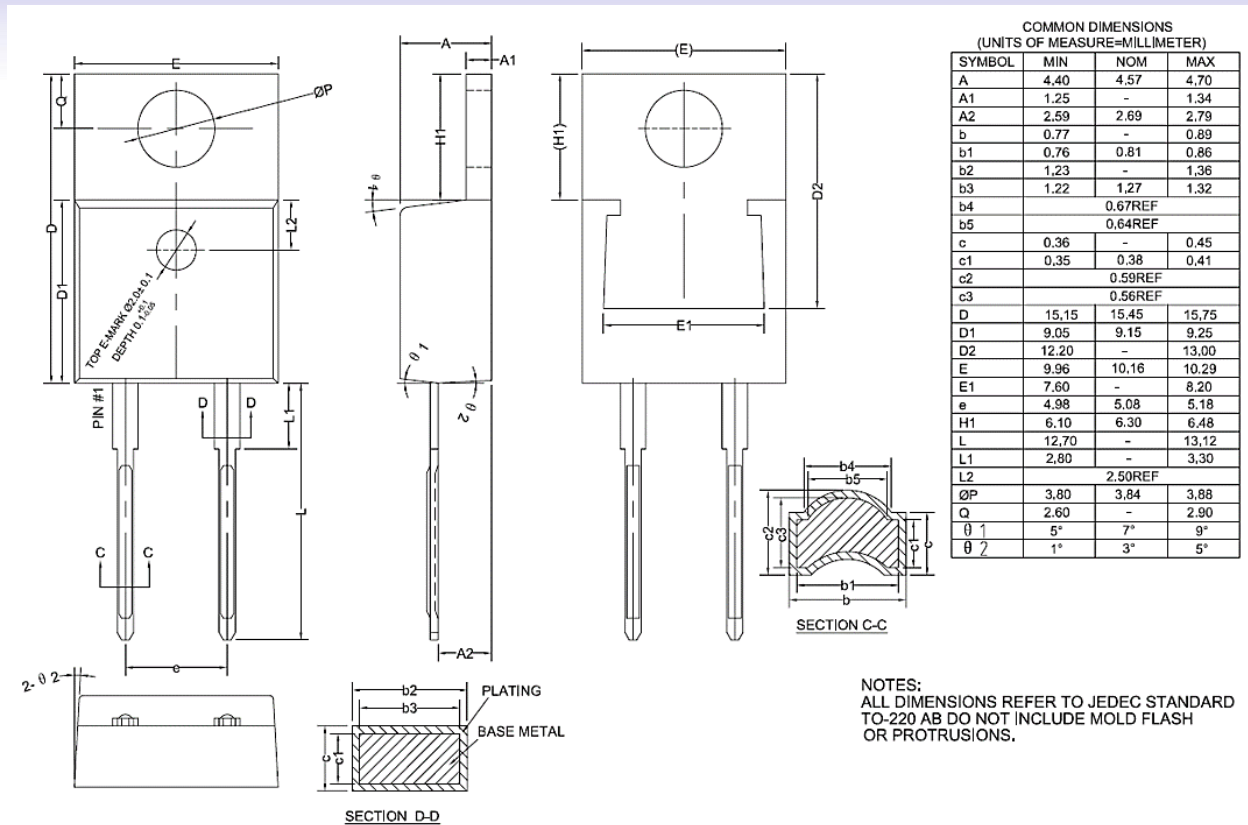


Fig. 8 Transient Thermal Resistance

Package TO-220-2L (Unit: mm)



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